

AGC/WSDOT Structures Team Minutes

June 30, 2006

Members

Attendees:	Company	Phone	E-mail
Ayers, Scott	Atkinson Const.	425-255-7551	scott.ayers@atkn.com
Beaver, Jesse	HQ Construction ¹	360-707-7825	beaverj@wsdot.wa.gov
Case, Derek	NWR ¹	425-433-2002	cased@wsdot.wa.gov
Hilmes, Bob	ER ¹	509-324-6232	hilmesb@wsdot.wa.gov
Kapur, Jugesh	HQ Bridge ¹	360-705-7209	kapurju@wsdot.wa.gov
Madden, Tom	UCO ¹	206-768-5861	maddent@wsdot.wa.gov
Olson, Ryan	Mowat Const.	425-398-0205	ryan.olson@mowatco.com
Quigg, John	Quigg Bros.	360-533-1530	johnq@quiggbros.com
Schettler, Jim	Jacobs Civil	206-382-6322	schettj@wsdot.wa.gov
Sheikhzadeh, Mohammad	HQ Construction ¹	360-705-7828	sheikhm@wsdot.wa.gov
Smith, Tobin	Max J. Kuney	509-535-0651	tobin@maxkuney.com
Swenson, Robb	General Const.	360-394-1407	robb.swenson@kiewit.com
Welch, Pete	Wilder Const.	425-551-3100	petewelc@wilderconstruction.com

Guests

Attendees:	Company	Phone	E-mail
Crawford, John	NWR ¹	425-359-1394	crawfjp@wsdot.wa.gov
Lenssen, Marlin	NWR ¹	425-228-8796	lenssmj@wsdot.wa.gov
MacClellan, Lee	UCO ¹	206-464-1367	maccllel@wsdot.wa.gov
Frye, Mark	HQ Geotechnical ¹	360-709-5469	fryem@wsdot.wa.gov

¹ WSDOT

The meeting started at 09:00.

1. I-5 Northbound Viaduct Bridge Deck Overlay and Expansion Joint Rehab

Lee MacClellan presented the project and requested evaluation of expansion joint replacement plans. The project includes bridge deck overlay and replacement of 35 joints on Br 5/539E NB (2279 LF), 35 joints on Br 5/539W SB (2660) and 3 joints on Br 5/536W SB (152 LF). Planners are concerned with prolonged roadway closure, project delivery time, and project cost.

Lee provided details of the existing expansion joint removal and the replacement rapid-cure silicone sealant expansion joint. The work plan is 1.4 LF joint/hr/crew with 5 work crews each consisting of 1 foreman, 3 laborers, 2 welders and 1 carpenter and a single support crew of 2 backhoe operators and 2 dump truck operators. Planned NB closures include 8 weekends or weekend-week-weekend plus 6 weekends. Planned SB closures include nights with or without weekends after NB is complete. Midweek night work can close 2 lanes, keeping 2 open. Weekend work can close 3 lanes.

Comments expressed were:

- Recommend initiation of independent test project that includes joints on shoulders or joints on Br 536W; use results to improve design and estimates.
- Recommend Bridge Office design temporary steel plate to cover joints between closures. Lee stated that Bridge office had already rejected use of steel plates, but team believes that their use may be unavoidable to meet allowable closures, so they should be included in the plan and used effectively. Options include asphalt build-up to thick plates or welded plate transitions.
- Recommend that joint rehab design account for depth of new overlay.
- The proposed 5 work crew option is unrealistic for 12 hr shifts. This number would have to be increased to 10 work crews to cover the full closure shift and the cost for this many work crews on overtime may be prohibitive. This work is specialized; 10 good crews may not be available.
- 5 in. overlay filled block out has high potential for cracking.
- Angle L7x4x3/8 under new joint is considered non-structural.
- Chipping limits on Sect A-exist are not adequate to remove existing steel plate.
- How will galvanized sections be field welded?
- Are there provisions for lead paint that may be encountered?
- Preference is for combination of night and weekend closures to dedicate crews; this would increase efficiency and decrease risk of inconsistent work.

Action Item: No further action by team.

2. SR-522 UW Bothell/CCC Campus South Access Project Dewatering

Mark Frye presented the project and requested recommendation of how to plan and estimate dewatering. The project realigns SR-522 between Kaysner War and I-405. Project work includes new signalized intersection, a new bridge, widening of an existing bridge, 13 new retaining walls, drainage facilities, sign bridges, and associated lighting.

Mark provided a draft dewatering specification, a photo of the existing intersection, a design visualization of the new intersection, a project site plan, and the generalized geologic profile. Discussions centered on dewatering needs and the plan to address them. Soils onsite were describe as high flow and tests for hazardous materials indicated clean soils. Initial estimate is 80-100 wells for a total of 5000-6000 LF of well. Wells will be pumped to the adjacent Sammamish River. Final project need is to permanently lower water level by outfall to river.

The primary concern for dewatering is construction of new 90 ft tall soil nail wall. The wall will be constructed with 85 ft length, 3 in. diameter high strength soil nails. Design visualization showed the proposed terraced wall construction. The hillside retained by the wall has artesian pressure at elevation above the proposed new roadway. A single 6 in. diameter test well pumped 56 gallons/minute for 8 hours.

Comments expressed were:

- Recommend bid per well and per month of use to allow field adjust of well count. Separate bid items by well type.

- Consider freezing fill at bridge footing for work; evaluate potential for settlement at thaw.
- Consider using 2 shafts each side to widen bridge footing; evaluate potential environmental concern for shafts near river.
- Consider MSE walls for new bridge approach.

Action Item: Team is requested to review draft dewatering specification and send feedback to Mohammad Sheikhezadeh.

3. Approval of April Meeting Notes

28 April 2006 AGC/WSDOT Structures Team Minutes were accepted with the following modifications:

- Attendees list, change “Welsh” to “Welch”
- Item 1, title, change “Manett” to “Manette”
- Item 1, para 3, change “Wider” to “Wilder”
- Item 1, para 3, change “without success” to “with some success”

4. AGC Lead Team News

Mo provided the following summary of lead team news:

- AGC Annual meeting is scheduled for 4 January 2007; a presentation is requested from the team on topic of interest such as Sound Transit Tunneling.
- Charlie McCoy resigned from lead team and was replaced by Scott Ayers.
- Legislature has approved 5 projects for design-build contracts over 2 million.
- Request to determine what WSDOT can do to get more bidders on projects; 1-2 bidders is common. Potential causes suggested by team include:
 - i. Material cost escalation increases risk to less familiar bidders.
 - ii. WSDOT administration requirement is onerous making WSDOT difficult to work for.
 - iii. Significant amount of privately-owned jobs right now reduces available pool of Contractors for WSDOT jobs.
 - iv. Scarce availability of estimator time; Contractors only bid when high probability of getting job.
 - v. Not enough skilled laborers; consider recruitment at high school age.
 - vi. Career path limited at advanced age; consider improving options for older laborers.

Action Item: A team member is requested to present project at upcoming annual meeting 1/4/07.

5. Standard Work Bridge Details for Permit Acquisition

Mo provided a draft single sheet standard plan for conceptual work trestle & girder falsework plans. Comments expressed were:

- Add timber piles to conceptual work trestle approximate quantities.
- NWR has a documented commitment to resource agencies that steel piles will not be used on SR-167 project.

- Details should be provided to contain debris where timber decking is spaced to allow light penetration.
- Number of piles is at low end of typical.
- Max pile area should be changed to max pile tip area.
- Work trestle cross-section span should be changed from 34 ft to 20 ft-55 ft.
- Add a pile at the center of the span to support the depicted falsework.
- Steel piling diameter can be removed from note on cross-section; it is stated in the conceptual work trestle approximate quantities box.
- Remove asterisk from environmental permit note.

Action Item: Mo is requested to modify drawing and provide to bridge and structures office for inclusion in contract plans.

6. Std Spec 6-02.3(6)A Weather and Temperature Limits to Protect Concrete – Cold Weather Protection

Mo provided a handout of the revised Cold Weather Protection specification for concrete curing. The specification is intended to limit concrete cure temperature to 50° F for cure day credit. Any temperature less than 35° F may result in rejection by the Engineer.

Comments expressed were:

- Paragraph 1, add words “at any time” between “35° F” and “during”
- Clarify temperature limitations in para 2, which seem to require min temp of 50° and 35° F and merge with the clarification in para 6.
- If concrete internal temp is required, sensors will have to be cast into the section; this is not adequately addressed.

Action Item: Team is requested to review draft Cold Weather Protection specification and provide feedback to Mo.

7. Std Spec 6-02.3(17)N Removal of Falsework and Forms – Side Forms

Mo provided a revised specification that lists side forms that may be removed after 24 hrs. Discussion included a request to consider allowing no curing compound on sides of spread footings that are immediately backfilled.

Action Item: No further action by team.

8. Std Spec 6-03.3(38) Placing Superstructure

Mo provided a handout of the revised specification to allow placement of superstructure when the piers and abutments have attained 80% of design strength. Previous requirement was to wait for superstructure placement until allowed by the Engineer.

Action Item: Team is requested to review draft Placing Superstructure specification and provide feedback to Mo.

9. Bridge Deck Longitudinal Diamond Grooving

The team discussed bridge deck finish by diamond grooving. The process allows immediate covering of the deck after placement to start continuous wet cure. After 14 day cure, the deck is finished by diamond grooving. Comments expressed were:

- The grooving is a wet process that creates basic water that may need treatment; discussion stated that the machine collects the slurry.
- Will the process be used for overlays?
- What depth will be taken off and does the depth account for weakening of surface layer in the case of overwetting?
- Issues are associated cost and extra time.

Action Item: Mo will keep the team informed of specification development.

10. Concrete Performance Mix Criteria

Mo handed out a concrete mix performance guideline. The team discussed change in mix criteria from prescriptive to performance based requirements. Comment requested addition of text to allow increase of max slump from 3-1/2" to 5-1/2" when high-range water reducing admixtures are used.

Action Item: Mo will keep the team informed of specification development.

The meeting was adjourned at 12:15 for the summer.

The next three meetings will be 22 Sep 06, 20 Oct 06, and 1 Dec 06.